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E Banking in India – A Study

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ABSTRACT

Liberalization, globalization and privatisation in India, since 1991 opened up new markets, new products and efficient delivery channels for the banking industry. The development and the increasing progress experienced in the Information & Communication Technology coupled with the expansion of the global economy paved the way for the transformation of the Indian banking from traditional trade financing to mobilizing and channelling financial resources more effectively in almost all facets of life. Intense competitive environment, changing business environments, globalization and the advancement of ICT are the important factors that have forced Banking and Financial services to change. Introduction of technology in banking sector has enabled customers to avail the banking services at anytime and anywhere in the form of ATM, Mobile banking, & Internet Banking. Banks today operate in a highly globalized, liberalized, privatized and a competitive environment.

In order to survive in this environment banks have introduced electronic banking. With the use of technology there had been an increase in penetration, productivity and efficiency. It has not only increased the cost effectiveness but also has helped in making small value transactions viable. It also enhances choices, creates new markets, and improves productivity and efficiency. It has been noticed that financial markets have turned into a buyer's markets in India.

KEYWORDS: *Banking, Information & Communication Technology, Electronic Banking*

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INTRODUCTION

The precursors to the modern home banking services were the distance banking services over electronic media, from the early 1980s. The term 'online' became popular in the late 1980s and referred to the use of a terminal, keyboard, and TV or monitor to access the banking system using a phone line. 'Home banking' can also refer to the use of a numeric keypad to send tones down a phone line with instructions to the bank.

The first known deployment of home computer banking to consumers came in December 1980 at United American Bank, a community bank headquartered in Knoxville, Tenn. United American partnered with Radio Shack to produce a secure custom modem for its TRS-80 computer that would allow bank customers to access account information securely. Services available in its first year included bill pay, account balance checks, and loan applications, as well as game access, budget and tax calculators and daily newspapers. Thousands of customers paid $25–30 per month for the service. Large banks, many working on parallel tracks to United American, followed in 1981 when four of New York's major banks (Citibank, Chase Manhattan, Chemical, and Manufacturers Hanover) offered home banking services, using the videotex system.

Online banking started in the United Kingdom with the launch of Nottingham Building Society (NBS)'s Homelink service in September 1982, initially on a restricted basis, before it was expanded nationally in 1983. Homelink was delivered through a partnership with the Bank of Scotland and British Telecom's Prestel service. The system used Prestel viewlink system and a computer, such as the BBC Micro, or keyboard (Tandata Td1400) connected to the telephone system and television set. In France after a test period with 2,500 users starting in 1984, online banking services were launched in 1988, using Minitel terminals that were distributed freely to the population by the government. By 1990, 6.5 million Minitels were installed in households. Online banking was one of the most popular services. Online banking services later migrated to the Internet. In Australia by December 1995, Advance Bank acquired by St. George Bank, started to provide customers with online banking with the rollout of the C++ Internet banking program. Virtual banking first became a possibility in 1996 with the Bank of Montreal's mbanx. mbanx was released at the very beginning of the internet banking revolution in Canada and was the first full-service online bank. Online banking services started in Japan by 1997, the first online banking service was launched by Sumitomo Bank. In 1998, ICICI Bank introduced internet banking to its customers, in India. In 2015 WeBank of China started 4-month-long online banking trail operation.

By 2000, 80% of U.S. banks offered e-banking. Customer use grew slowly. At Bank of America, for example, it took 10 years to acquire 2 million e-banking customers. However, a significant cultural change took place after the Y2K scare ended. In 2001, Bank of America became the first bank to top 3 million online banking customers, more than 20% of its customer base. In comparison, larger national institutions,

such as Citigroup claimed 2.2 million online relationships globally, while J.P. Morgan Chase estimated it had more than 750,000 online banking customers. Wells Fargo had 2.5 million online banking customers, including small businesses. Online customers proved more loyal and profitable than regular customers. In October 2001, Bank of America customers executed a record 3.1 million electronic bill payments, totalling more than $1 billion. As of 2017, the bank has 34 million active digital accounts, both online and mobile. In 2019, a report by Gartner Group estimated that 77% of United States adults and 60% in the United Kingdom bank online.

Reserve bank of India in the year 1994 created a committee under the head of W S Saraf which strongly recommended the use of Electronic fund transfer (EFT), the introduction of electronic clearing services and extension of Magnetic Ink Character Recognition (MICR) in city and town bank branches. In 1996 ICICI (Industrial Credit and Investment Corporation of India) was the first to use Electronic banking in India by introducing online banking services in branches. Its initiatives were followed by HDFC Bank, IndusInd Bank and Citibank, who started provided online banking facilities in 1999. Reserve bank of India and government of India have been taken various initiatives for the expansion and smooth functioning of Electronic banking in India. The government of India passed the IT Act, 2000 which delivers a legal acknowledgement to e-transactions and E-commerce.

Popular services under e-banking in India include

- ATMs (Automated Teller Machines)
- Telephone Banking
- Electronic Clearing Cards
- Smart Cards
- EFT (Electronic Funds Transfer) System
- ECS (Electronic Clearing Services)
- Mobile Banking
- Internet Banking
- Tele banking
- Door-step Banking

In addition, under E-Banking, the following services are available in India

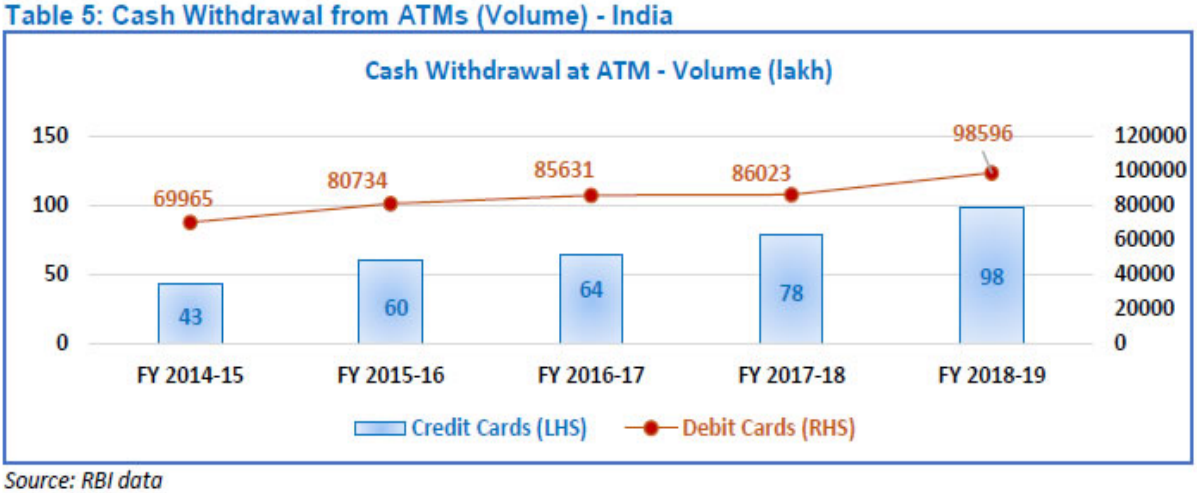
1. **Bill payment** – Now various payments like Insurance premiums, Phone bills, Electricity bills, Investments in share markets and many other transactions can be done online with the help of E-Banking services. Customers can even give standing instructions for their regular monthly payments (EMI) to the bank. In addition bank charges nominal fees for their service.
2. **Funds transfer** – Customers can make fund transfer from one account to another with the same as well as different bank anywhere in the country. He needs to just login with his ID and password and enter the bank details of the beneficiary to transfer the money.
3. **Investing** – Through E- banking, a customer can even open a Fixed Deposit or Recurring Deposit Account and invest in Systematic Investment Plan (SIP) with the online platform. They can link their D-Mat account with their SB account and can invest in shares or Mutual funds.
4. **Shopping** – Now shopping is still easier with the help of E-Banking where purchase and payments can be done easily through online mode.

E- Banking Statistics in India

A. Withdrawals from ATMs

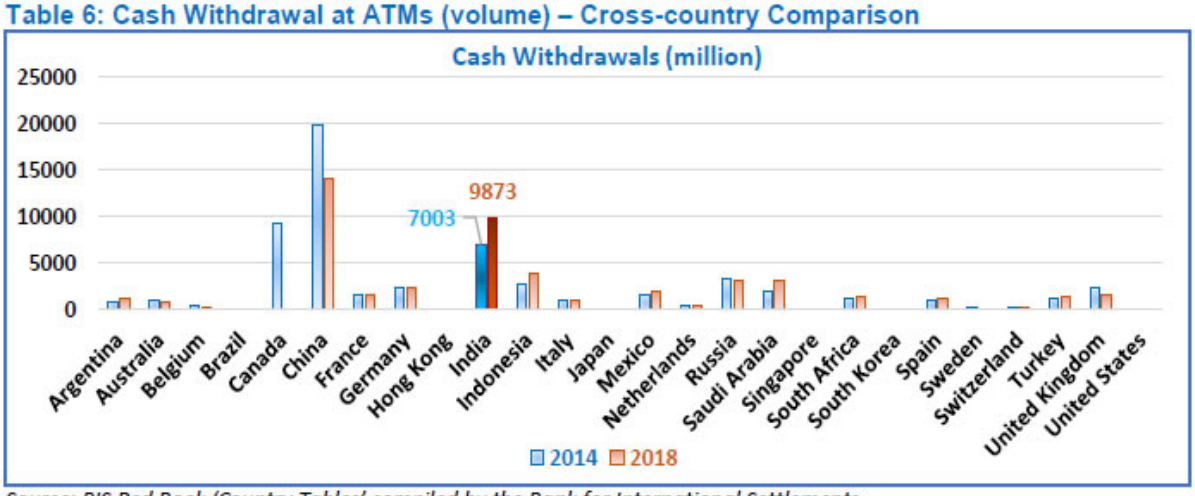
The cash withdrawal rate from ATMs has been increased rapidly over the past 5years.Now in terms of ATM cash withdrawals India stands next to China. However, the percentage of cash withdrawals to GDP has been stable in India at around 17%. In addition, with a CAGR of 9% in terms of volume and 10% in terms of value, the growth has been slow when compared to digital payment transactions (which grew at a CAGR of 61% and 19% in terms of volume and value, respectively), indicating a shift towards digitisation. Further, the infrastructure for cash withdrawal, i.e., ATMs has grown at a low pace (CAGR of 4% during the past 5 years).

Table 5: Cash Withdrawal from ATMs (Volume) - India



Source: RBI data

Table 6: Cash Withdrawal at ATMs (volume) – Cross-country Comparison



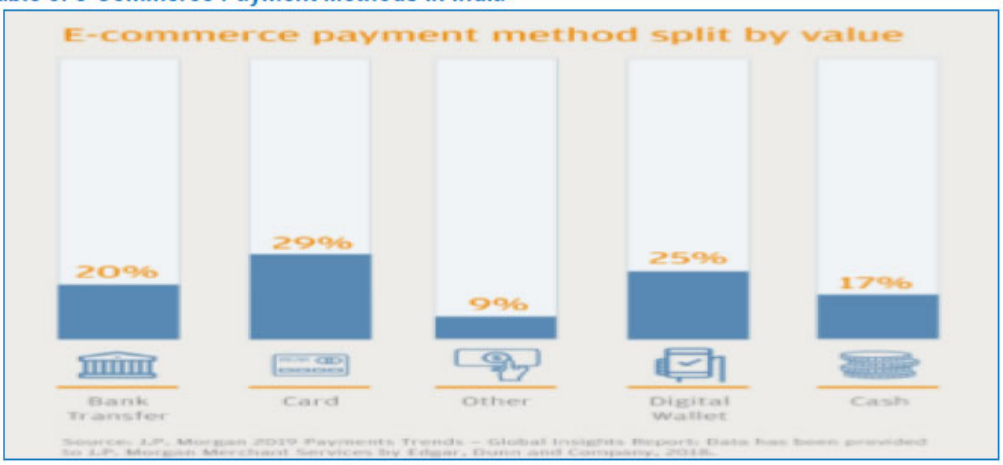
Source: BIS Red Book 'Country Tables' compiled by the Bank for International Settlements

B. Estimates of Cash Payments

Some surveys / reports have attempted to measure the level of cash payments in the economy. Although many of the reports are only estimates, they do provide some indication of cash usage and digitisation in the country as also across the world. According to these estimates, cash still reigns supreme not only in India but in many other jurisdictions as well. Payments are, however, quickly expanding to include online payment channels. A report by Worldpay revealed that digital payment usage is increasing in the Asia Pacific region and estimated that the e-commerce market in the region will grow by a CAGR of 12 percent between 2016 and 2021, with India being one of the key drivers of this growth.

The JP Morgan 2019 Global Payments Trends Report - India Country Insights observed that Indian payments market, historically dominated by cash, is evolving to meet the demands of Smartphone led online shopping culture, with cards and digital wallets rising in prominence.

Table 8: e-Commerce Payment Methods in India

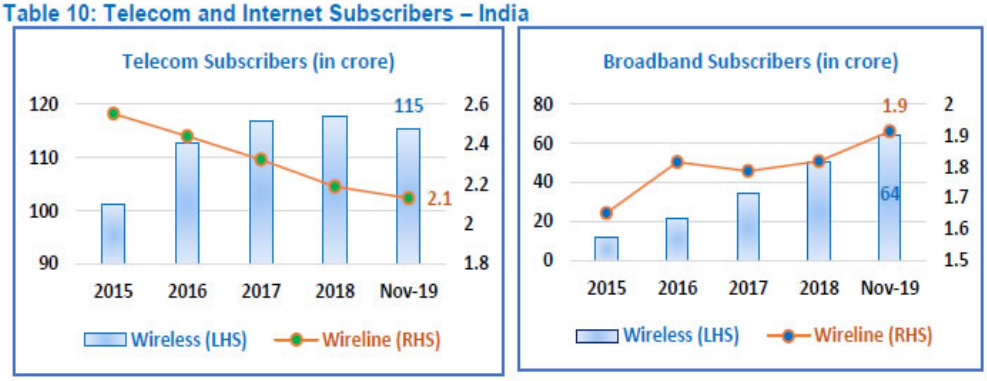


C. Digital Payment Enablers

1. Mobile Phones and Internet

The increasing mobile density and mobile internet users are being leveraged upon by payment systems providers, both banks and non-banks, to offer the payment services using mobile as an access device as well as an access channel. Banks in particular, have been offering mobile banking services through all three channels – SMS, USSD (Unstructured Supplementary Services Data) and mobile applications.

Table 10: Telecom and Internet Subscribers – India



Source: Telecom Regulatory Authority of India (TRAI) Data

As at end November 2019, India had over 115.5 crore wireless telephone subscribers resulting in a tele-density of 88.90%. The urban tele-density and rural tele-density was 157.33% and 56.69%, respectively. The increase in smartphones has helped to accelerate the adoption of digital payments. Further, it has led to numerous innovations in payment mechanisms, such as tokenisation and scanning of QR code for making payments using Smartphone's. These have facilitated the shift from cash to non-cash payments.

Internet usage is on the rise in India. While the average Indian until 2013 used to spend more on voice services than on mobile data services, the majority of an average mobile bill now pertains to data charges according to a report by the Internet and Mobile Association of India (IAMAI). As on end November 2019, there were over 64.2 crore and 1.9 crore wireless and wireline broadband subscribers, respectively across the country. The increase in internet penetration has ensured adoption of digital modes of payments across the country.

The growth of infrastructure in India has been phenomenal over the past six years, especially with reference to availability of Mobile Cellular Subscriptions. With increased penetration of 3G and 4G even in remote areas, the internet network is rapidly expanding in India and provides a threshold of "Digital Revolution."

2. Bank Accounts

The number of deposit accounts has grown to 217.40 crore as at end March 2019. These include deposit accounts in all commercial banks including Local Area Banks (LABs), Payment Banks (PBs), Small Finance Banks (SFBs), Regional Rural Banks (RRBs) and cooperative banks in the country. As on October 30, 2019 there were 37.36 crore Basic Savings Bank Deposit (BSBD) accounts. The availability of bank accounts plays a key role in initiating digital payments from / to such accounts.

3. Aadhaar

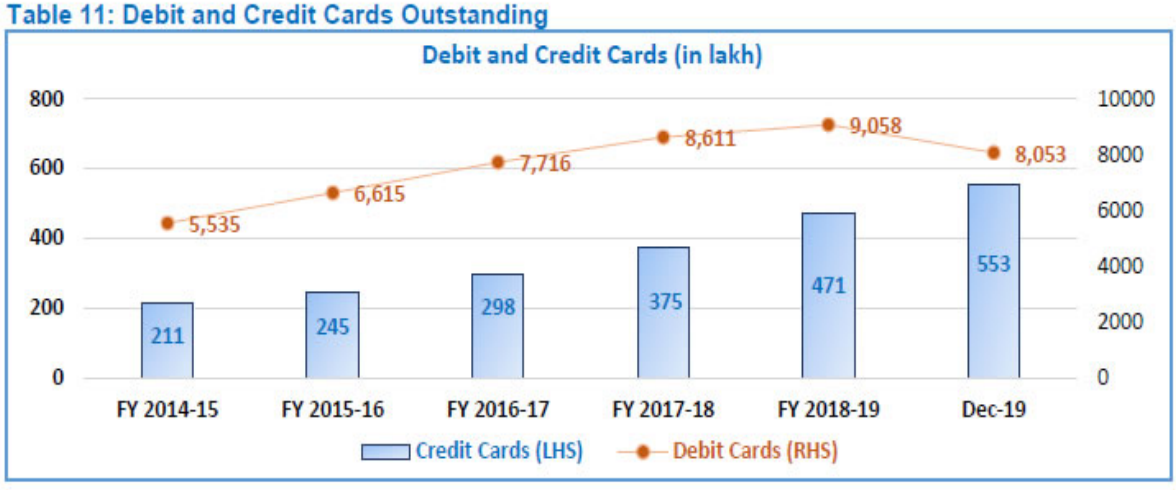
Since its launch in 2009, the Aadhaar, a unique identity for all Indian citizens has been issued to over 124 crore individuals across the country. "Aadhaar" enabled eKYC (electronic Know Your Customer) had resulted in an exponential growth of digital payments in India. The use of Aadhaar has also been leveraged for authenticating payments to merchants and through business correspondents. Aadhaar has helped widen the reach and access of payment systems across the country. The coverage of Aadhaar biometric identification has witnessed increased use in Government payments (G2P). It reduced leakages from the system by expunging fake beneficiaries. These payment systems have helped migrate cash payments to electronic form.

4. Debit and Credit Cards

In respect of card issuance, during the past 5 years, the number of credit cards issued increased from 211 lakh to over 550 lakh. The same period also witnessed a steep increase in debit cards from 5535 lakh to over 8000 lakh. This was supported by the 2960 lakh Rupay debit cards issued to BSBD account holders. Increase in cards has facilitated growth in both online and physical PoS terminals based card payments resulting in an increase in digital transactions.

Banks issued new cards to comply with the requirement to convert all existing Magstripe cards to EMV Chip and PIN compliant cards by December 31, 2018 and subsequently removed deactivated cards from their systems, resulting in a drop in debit cards outstanding. The consolidation of public sector banks also contributed to this reduction.

Table 11: Debit and Credit Cards Outstanding



Source: RBI Data

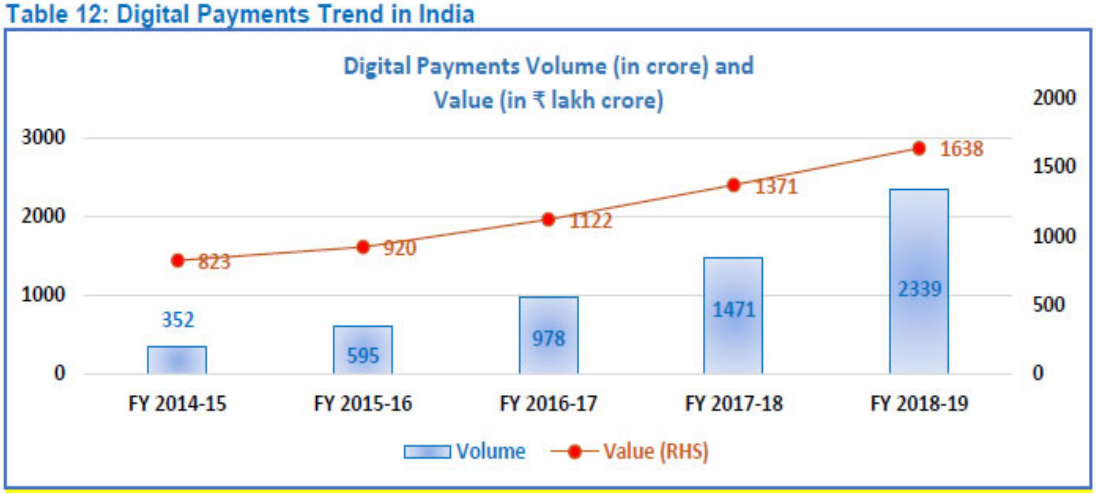
D. Progress in Digitisation

While there is no accurate measure of cash payments in the country, the progress of various digital payments can be measured accurately. Overall, the digital payments in the country have witnessed a CAGR of 61% and 19% in terms of volume and value, respectively over the past 5 years, demonstrating a steep shift towards digital payments.

1. Growth of digital payments

Within the digital payments, retail electronic payments comprising credit transfers {NEFT, fast payments (IMPS and UPI)} and direct debits (ECS, NACH) have shown a rapid growth at a CAGR of 65% and 42% in terms of volume and value, respectively. Stored value cash issued in the form of wallets and prepaid cards demonstrated an increased adoption with a CAGR of 96% and 78% in terms of volume and value, respectively.

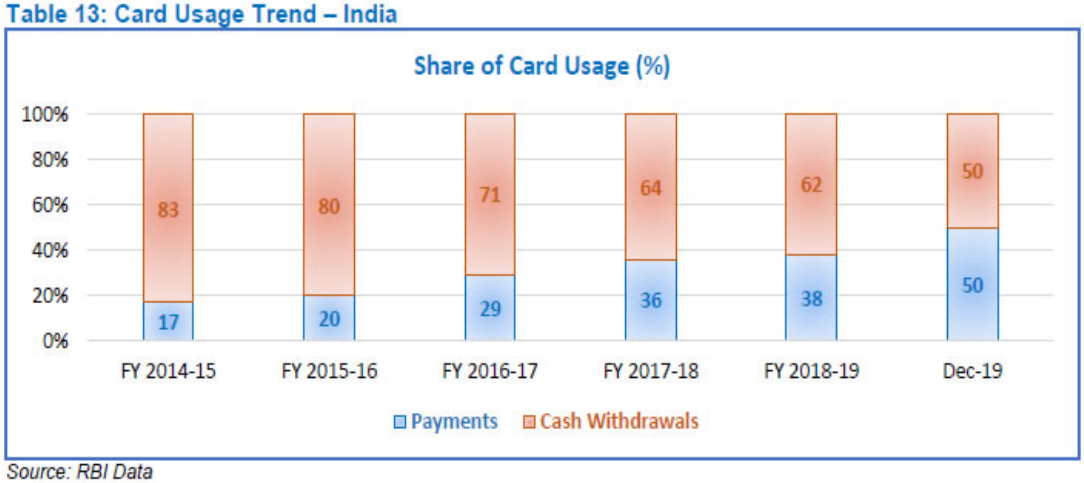
Table 12: Digital Payments Trend in India



Source: RBI Data

Debt and credit card based payments registered a CAGR of 44% and 40% in terms of volume and value, respectively. The adoption of card payments has been supported by innovations in the form of contactless payments and tokenisation technologies, contributing to the growth. In addition, the use of cards for payments is increasing vis-a-vis their use for withdrawing cash.

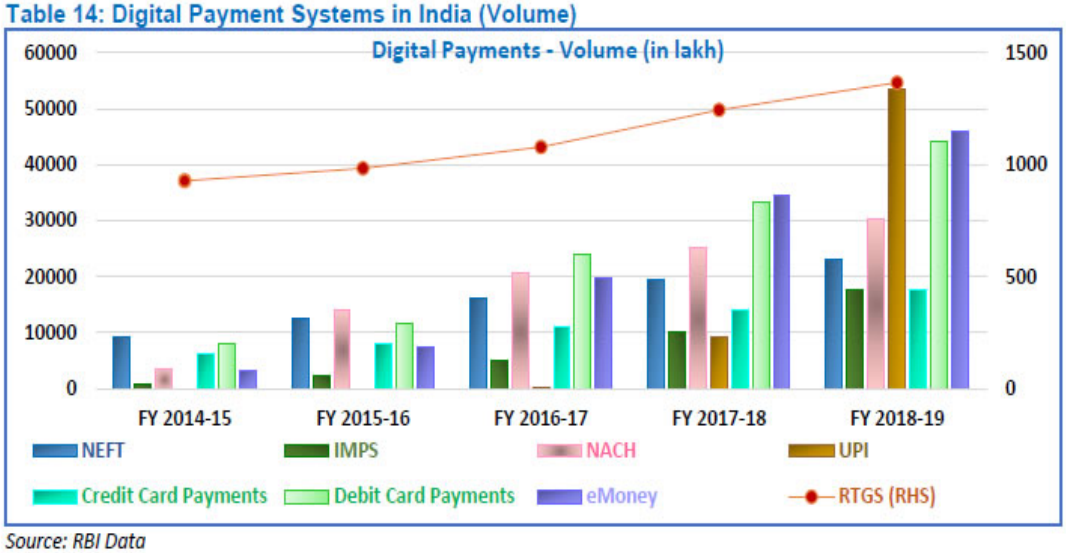
Table 13: Card Usage Trend – India



Source: RBI Data

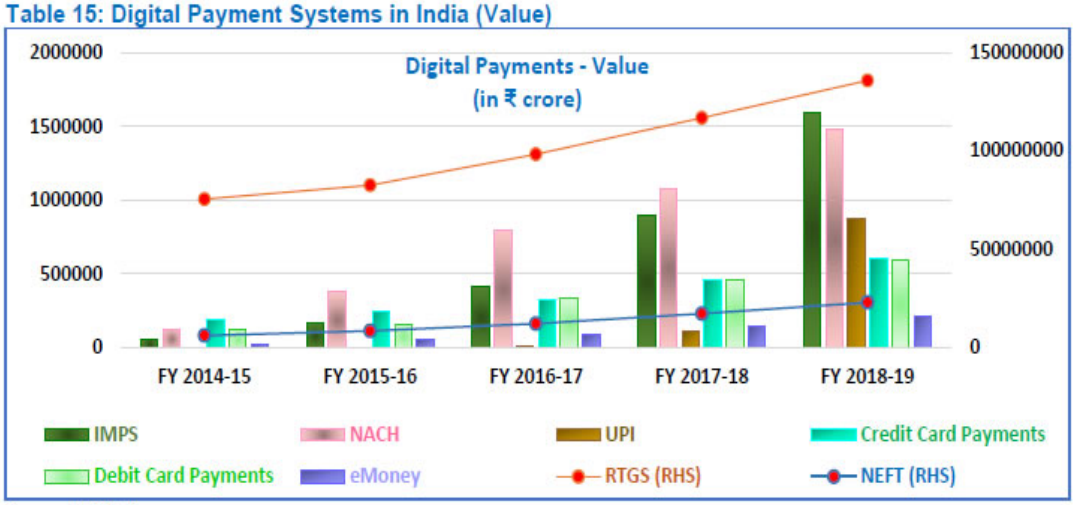
Innovation is making domestic payments increasingly convenient, instantaneous and ubiquitous. More options are available to consumers and this is making it more convenient for them to use digital payments. Systems that offer near instant person-to-person retail payments are increasingly available around the world. Many payment systems in the country now operate 24 hours a day, seven days a week, which are pushing customers towards digital payments on account of the convenience they offer. India has Immediate Payment Systems (IMPS) and Unified Payments Interface (UPI) as fast payments and the latter is driving the retail payments volume. In addition, with NEFT, which drives the retail payments value, operationalised on a 24x7x365 basis (with half-hourly settlements), India's payment systems landscape is headed for substantial growth.

Table 14: Digital Payment Systems in India (Volume)



Source: RBI Data

Table 15: Digital Payment Systems in India (Value)



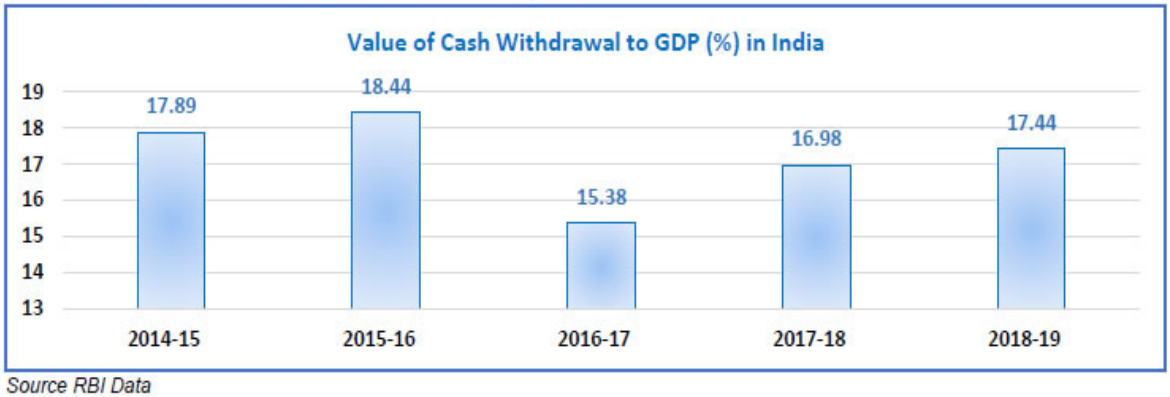
Source: RBI Data

According to GlobalData, a data and analytics company, digital cash in India is poised for significant growth. According to the 2017 Consumer Payments Insight Survey by the company, India is one of the top markets globally in terms of digital cash adoption with 55.4% survey respondents indicating that they use it. India is followed by China and Denmark. The adoption level in India is much higher compared to many of the developed markets such as the US and the UK, where consumers predominantly use cards.

2. Digital Payments to GDP

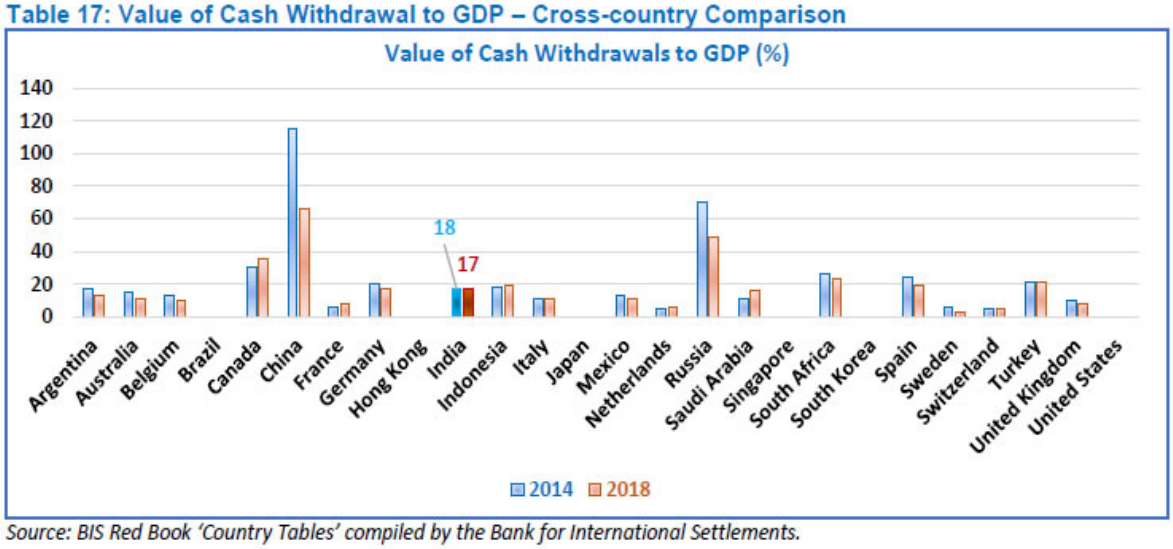
6.6 The value of cash withdrawals at ATMs to GDP has remained constant in India at around 17% except during the demonetisation period when it fell to 15%. When compared with other jurisdictions, India is behind only to Nordic countries, France, Belgium, UK and Australia which are known "less-cash" economies. Even China, which is ahead of most countries in terms of digital products and channels, has a high 67%, indicating a high velocity of cash.

Table 16: Value of Cash Withdrawal to GDP – India



Source RBI Data

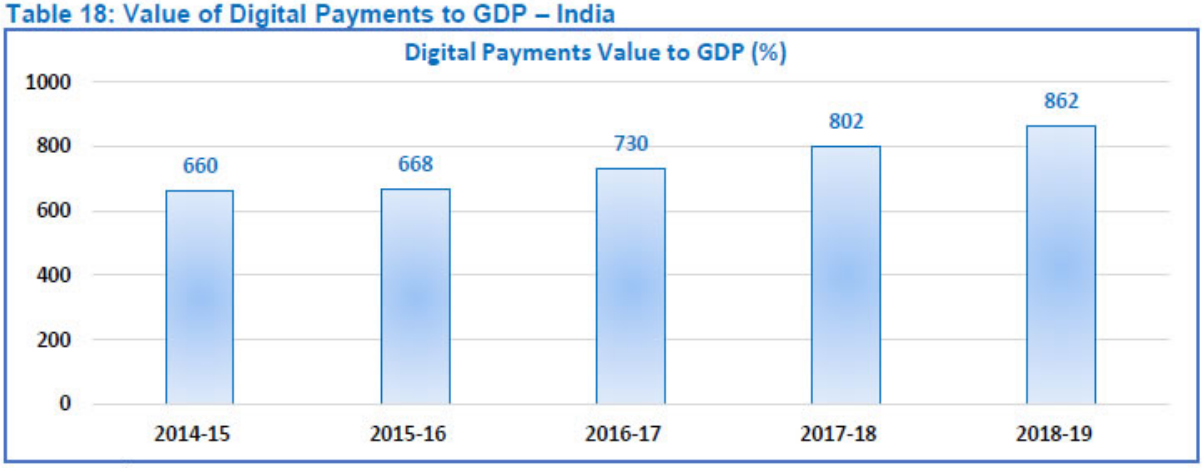
Table 17: Value of Cash Withdrawal to GDP – Cross-country Comparison



Source: BIS Red Book 'Country Tables' compiled by the Bank for International Settlements.

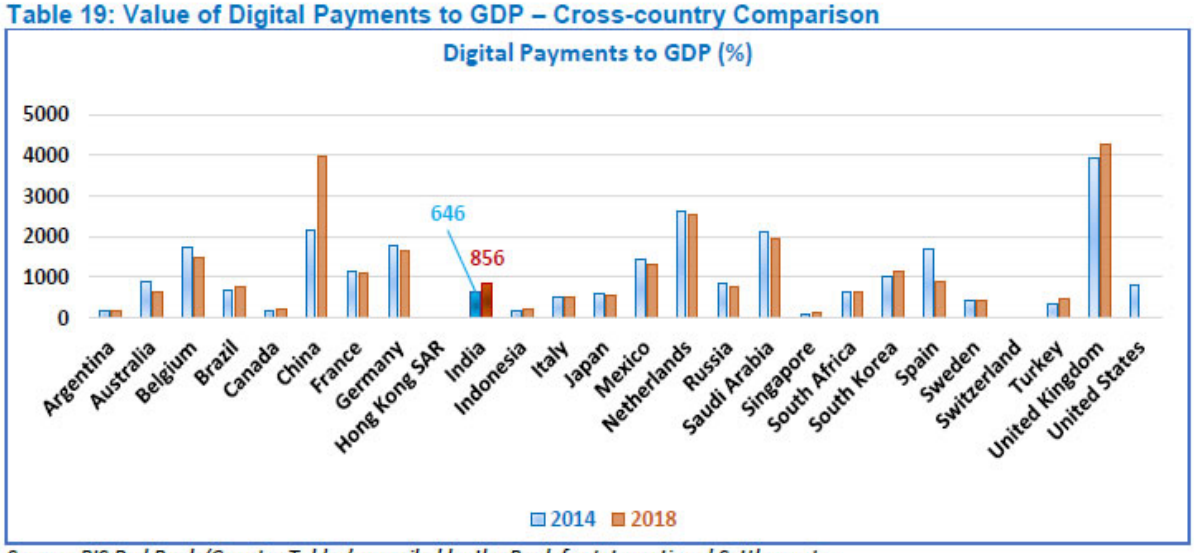
The value of digital payments to GDP increased from 660% in 2014-15 to 862% in 2018-19, making the shift to digital payments in India clearly perceptible. A comparison with other CPMI countries shows that India is amongst the few countries like Argentina, Brazil, China, South Korea, Turkey and U.K. where the value of digital payments as a percentage of GDP has increased.

Table 18: Value of Digital Payments to GDP – India



Source: RBI data

Table 19: Value of Digital Payments to GDP – Cross-country Comparison



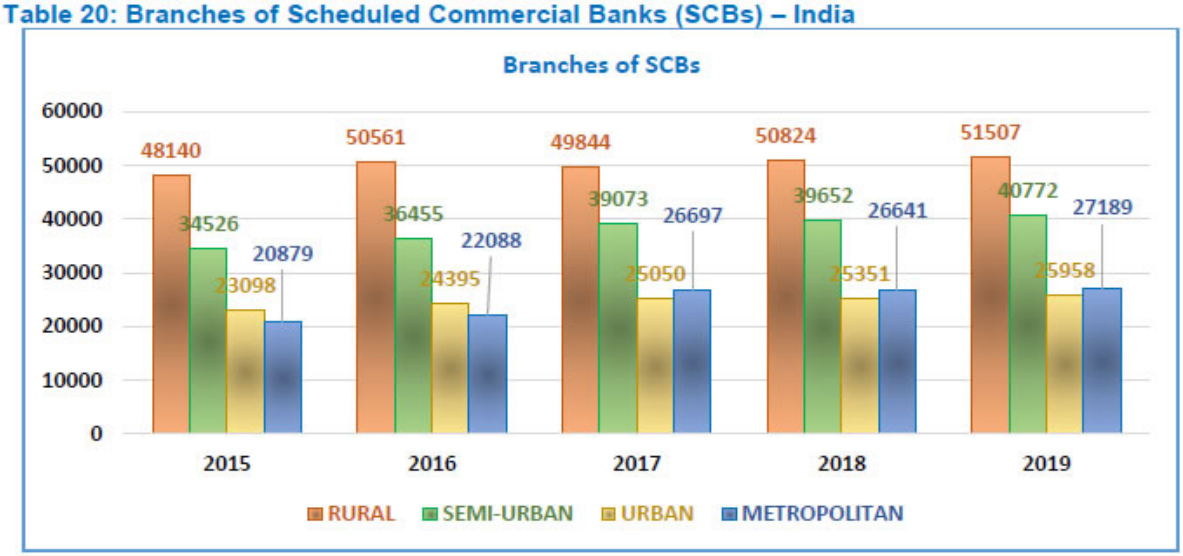
Source: BIS Red Book 'Country Tables' compiled by the Bank for International Settlements.
Note: The value of paper clearing is subtracted from the cashless payments value.

3. Infrastructure

Infrastructure is the key requirement facilitating both cash dispensation and electronic payments. While it is true that bank branches and ATMs facilitate cash transactions, the former also facilitates the growth of electronic payments by bringing about financial inclusion and the latter acts as a confidence factor that cash is available at hand when required and as such there is no need to keep it stored in your wallet / purse. PoS terminals and mobile phones directly aid electronic transactions.

The last 5 years have witnessed a growth of 3.5% in the number of branches of SCBs across the country. The increase in branches, especially in rural and semi-urban areas has been an enabler for instilling banking practices in these areas which aids digital payments.

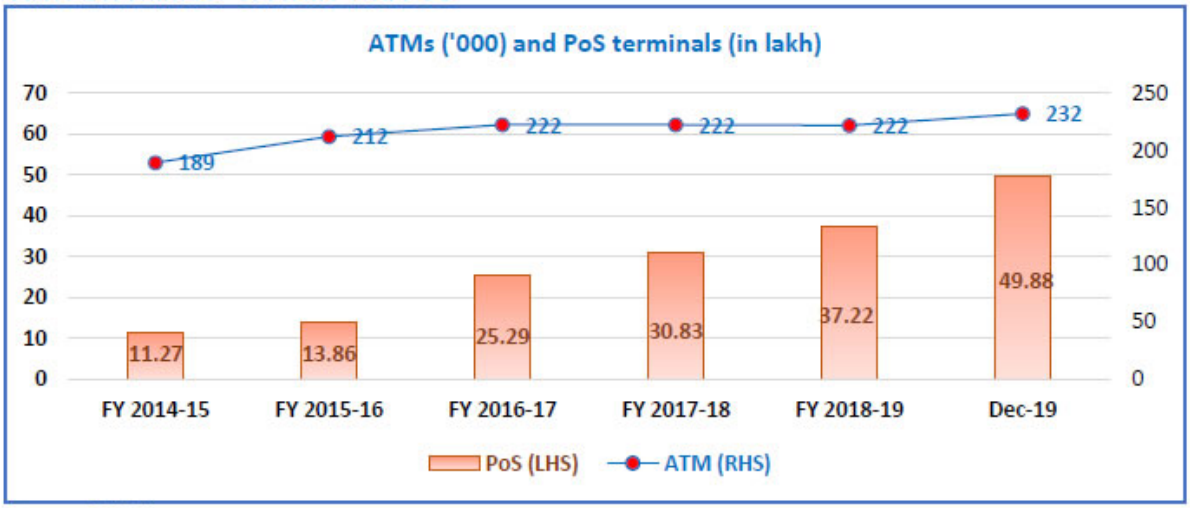
Table 20: Branches of Scheduled Commercial Banks (SCBs) – India



Source: RBI Data

As at December 2019, there were around 49 lakh PoS terminals across the country. The ATMs and PoS terminals across the country have grown at a CAGR of 4% and 35%, respectively over the past 5 years. While the number of ATMs (a "cash" infrastructure) has grown at a low pace, the growth of non-cash infrastructure, mainly depicted by PoS has been significant. This has given a further fillip to digitisation.

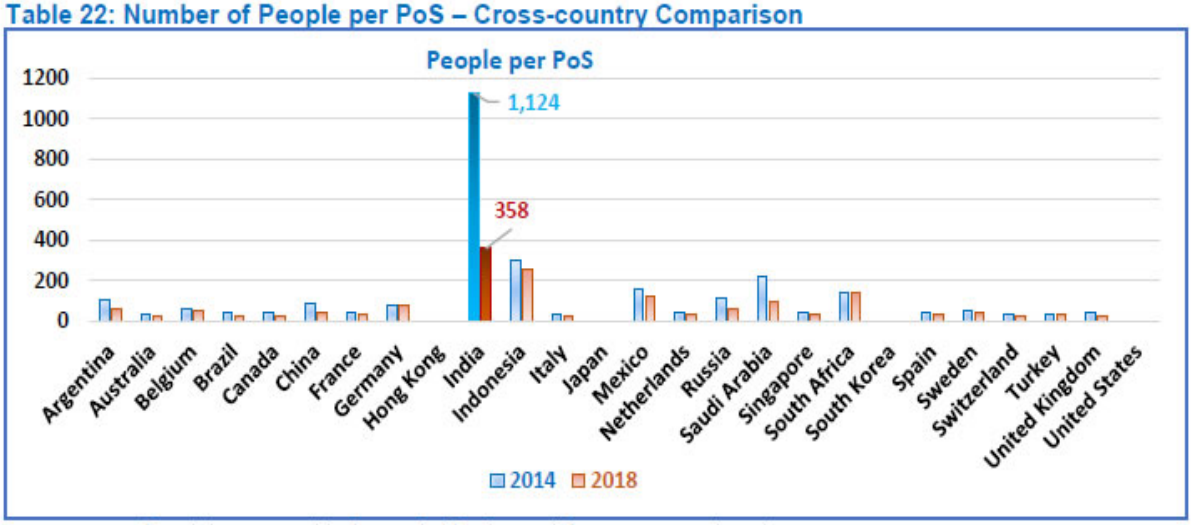
Table 21: Number of ATMs and PoS



Source: RBI Data.

While India made considerable progress with reference to the absolute number of PoS terminals deployed, the density of population dependent on a PoS terminal continues to be high at 358. While this is a drastic improvement from the 1124 persons per PoS terminal in 2014, other CPMI countries had a better deployment rate. In order to increase the acceptance infrastructure, the Reserve Bank has announced the operationalisation of an Acceptance Development Fund to increase acceptance infrastructure.

Table 22: Number of People per PoS – Cross-country Comparison



Source: BIS Red Book 'Country Tables' compiled by the Bank for International Settlements.

Another important acceptance infrastructure gaining popularity is the digital PoS or the QR code. Bharat QR has grown as a lightweight, low cost method to bring merchants into the acceptance network. The deployment of QR codes is expected to increase substantially in the coming years which along with physical PoS terminals will facilitate the rapid adoption of digital payments. As on November 30, 2019, over 16 million payment QR codes (Bharat QR as well as proprietary QRs of other payment system operators) were deployed. A committee has been constituted by the Reserve Bank to examine, review and finalise a pan-India, inter-operable QR code structure.

E. Looking Glass

The factors inhibiting the digital push are connectivity issues, inadequate acceptance infrastructure, lack of familiarity with newer, alternative payment methods, delay in getting complaints resolved and security and privacy concerns. Reserve Bank has acknowledged the same and to address these issues has put in place systems like, consumer awareness programmes, ombudsman schemes, increasing the category of billers in Bharat Bill Pay, etc.

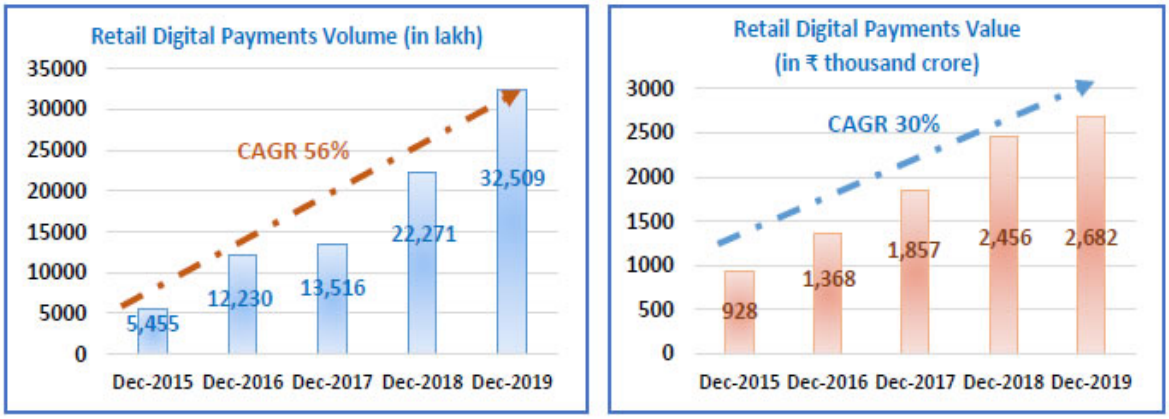
The Payments and Settlement Systems Vision 2019-2021 envisages empowering every citizen with an Exceptional (e) Payment Experience, and provide her access to a bouquet of options. To achieve this, the Reserve Bank has (a) made NEFT available 24x7 with effect from December 16, 2019; (b) mandated banks not to charge savings bank account customers for online transactions in the NEFT system with effect from January 2020; (c) permitted all authorised payment systems and instruments (non-bank PPIs, cards and UPI) for linking with National Electronic Toll Collection (NETC) FASTags; and (d) enabled processing of e-mandates for transactions through UPI. However, some areas still remain where action is envisaged, such as (a)

operationalising the Acceptance Development Fund to increase acceptance infrastructure; (b) Assessing the need for plurality of QR codes and merits of their co-existence or convergence from both systemic and consumer viewpoints; In addition, RBI is conducting an innovation contest through the Institute of Development and Research in Banking Technology (IDRBT). These steps will further accelerate the adoption of digital payments.

F. Retail Digital Payments – In India

India's growing use of retail digital payments, along with the radical reconstruction of its cash economy, indicates a shift in its relationship with cash. This is evidenced by the steep growth observed in the retail digital payments. Increasing acceptance and convenience of digital payments vis-à-vis cash is also reflected in decrease in average value per digital payment transaction.

Table 23: Retail Digital Payments – India



Source: RBI Data. Retail Digital Payments = Total Digital Payments minus RTGS

A large population of the country historically lacked access to personal bank accounts and credit lines. Digital payment methods (AePS, APBS, DBT) have played a large role in helping them manage their personal finances leading to their being financially included.

Cash still rules but is increasingly seen as a way to store value as an economic asset rather than to make payments.

Speed, convenience and competition are shaping the future of payments. Our endeavour is to make digital (payments) a divine experience to the users – **Cash is King, but Digital is Divine**.

Literature Survey

Sathre (1999) the author in his study **"Internet Banking by Australian customers an empirical investigation"** pointed out the factors affecting adoption of internet banking by Australian customers. The research study revealed that lack of awareness and security concerns were the main obstacles for the adoption of internet banking among the customers.

Jun.M and Cai S (2001) the author in his study identified 17 service quality dimensions of E-banking service quality. These are reliability, Responsiveness, competence, courtesy, credibility, Access, communication, understanding of customers, collaboration, continuous improvement, content, Accuracy, Ease of use, Timeliness, Aesthetics, Security, and drivers features. They also suggested that some dimensions such as Responsiveness, reliability, and Access are critical for both traditional and internet banking.

Kamal and Hasan (2003) the author has analyzed the effects of introduction of electronic banking in Egypt. The author has tried to focus on the acceptance of new channels using a model which is based on Technology Acceptance model(TAM) The author has further generalized the issue with new channels, ATM credit card, phone-banking and Internet banking. Thos the authors concluded that TAM could be one of the useful research tool in the study related to Acceptance of new means in the internet Banking.

Sudeep. S. (2007) the author in his dissertation **"Internet banking and customers Acceptance. The Indian scenario"** observed that quantitative analysis of the model (TAM) confirmed that the factors identified by the researcher V1Z, Perceived usefulness, perceived ease of use, customer awareness, consumer security concerns, quality of facilities, subjective norms and trust and privacy did influence the customer acceptance towards internet banking . It is starting to note that the author's reference to five variables perceived usefulness, perceived ease of use customer awareness Quality of facilities and subjective norms had positive impact on internet banking. And the customer security and trust privacy have negative impact on internet banking.

Divya Singhal and Padmanabha (2008) the author in his article **"A study on customer perception Towards Internet Banking"** has Identified Major contributing of Factors responsible internet banking. Factor analysis results indicator that 'utility request' 'security' utility transaction ticket booking and 'Fund transfer are major factors. Out of total respondents more than 50% agreed that internet banking is convenient and flexible ways of banking and it also have various transactions related benefits. Thus the study reveals that providing internet banking increasingly becomes a "**need to have**" than a" nice to have" service.

Paul Hazell and Ziad Rapae (2009) the authors have highlighted on the concept of Internet banking. In their study they analyze to be growth of internet banking in Latin America. The study reveals that internet banking is not a disruptive technology rather the use internet in banking represents the leveraging of an incredibly efficient medium to provide a very cost and time effective channel.

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